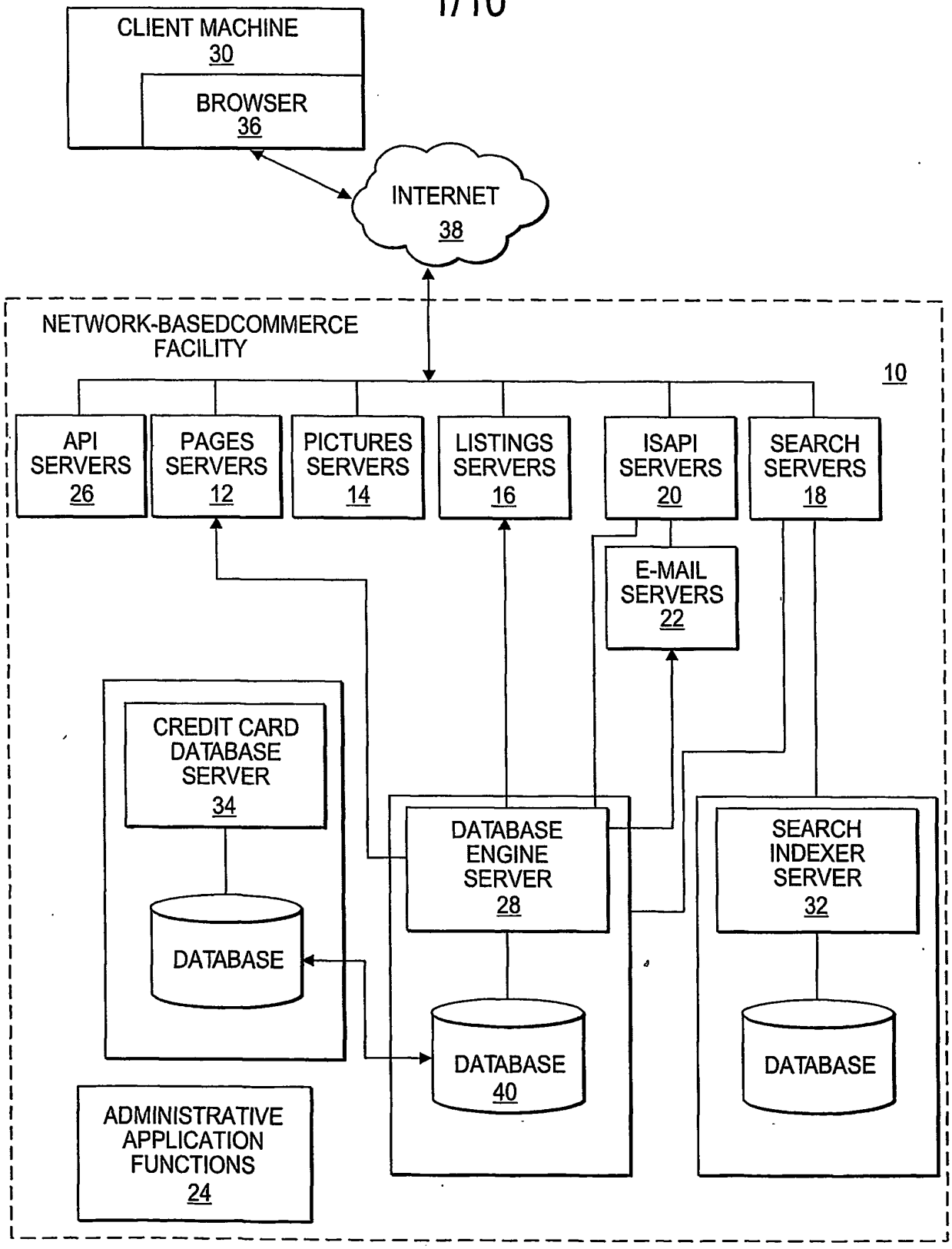
CLIENT MACHINE
30
BROWSER
36
INTERNET
38
NETWORK-BASEDCOMMERCE FACILITY
10
API SERVERS
26
PAGES SERVERS
12
PICTURES SERVERS
14
LISTINGS SERVERS
16
ISAPI SERVERS
20
SEARCH SERVERS
18
E-MAIL SERVERS
22
CREDIT CARD DATABASE SERVER
34
DATABASE
DATABASE ENGINE SERVER
28
DATABASE
40
SEARCH INDEXER SERVER
32
DATABASE
ADMINISTRATIVE APPLICATION FUNCTIONS
24

FIG. 1

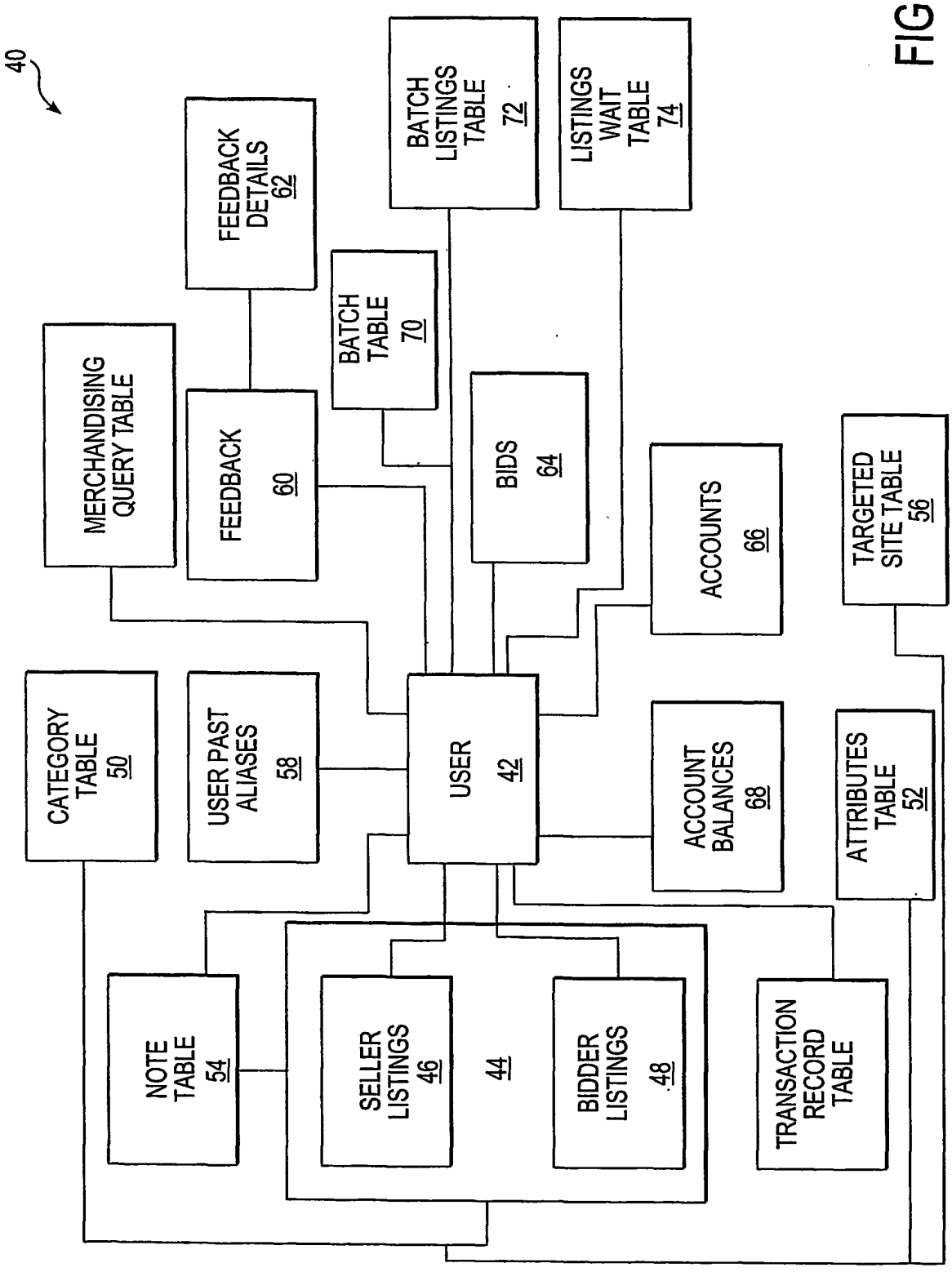
40
FEEDBACK DETAILS 62
BATCH LISTINGS TABLE 72
LISTINGS WAIT TABLE 74
BATCH TABLE 70
MERCHANDISING QUERY TABLE
FEEDBACK 60
BIDS 64
ACCOUNTS 66
TARGETED SITE TABLE 56
CATEGORY TABLE 50
USER PAST ALIASES 58
USER 42
ACCOUNT BALANCES 68
ATTRIBUTES TABLE 52
NOTE TABLE 54
SELLER LISTINGS 46
44
BIDDER LISTINGS 48
TRANSACTION RECORD TABLE

FIG. 2

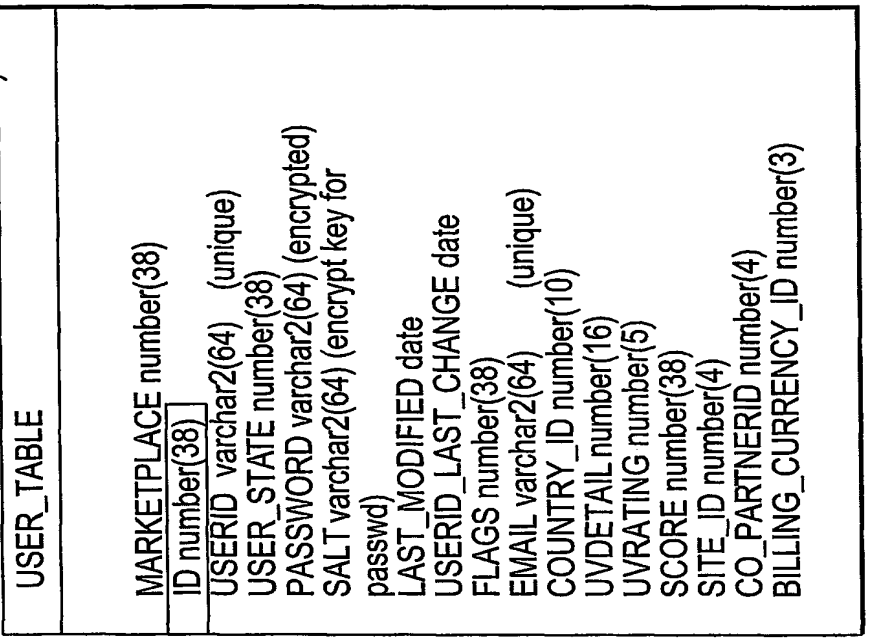
42
USER_TABLE
MARKETPLACE number(38)
ID number(38)
USERID varchar2(64) (unique)
USER_STATE number(38)
PASSWORD varchar2(64) (encrypted)
SALT varchar2(64) (encrypt key for passwd)
LAST_MODIFIED date
USERID_LAST_CHANGE date
FLAGS number(38)
EMAIL varchar2(64) (unique)
COUNTRY_ID number(10)
UVDETAIL number(16)
UVRATING number(5)
SCORE number(38)
SITE_ID number(4)
CO_PARTNERID number(4)
BILLING_CURRENCY_ID number(3)

FIG. 3B

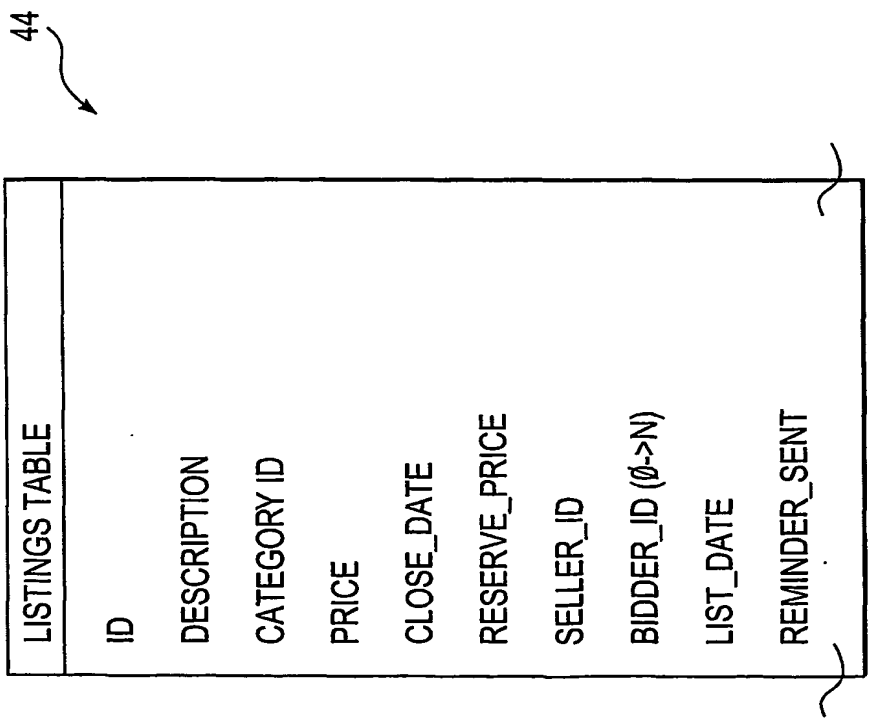
44
LISTINGS TABLE
ID
DESCRIPTION
CATEGORY ID
PRICE
CLOSE_DATE
RESERVE_PRICE
SELLER_ID
BIDDER_ID (∅->N)
LIST_DATE
REMINDER_SENT

FIG. 3A

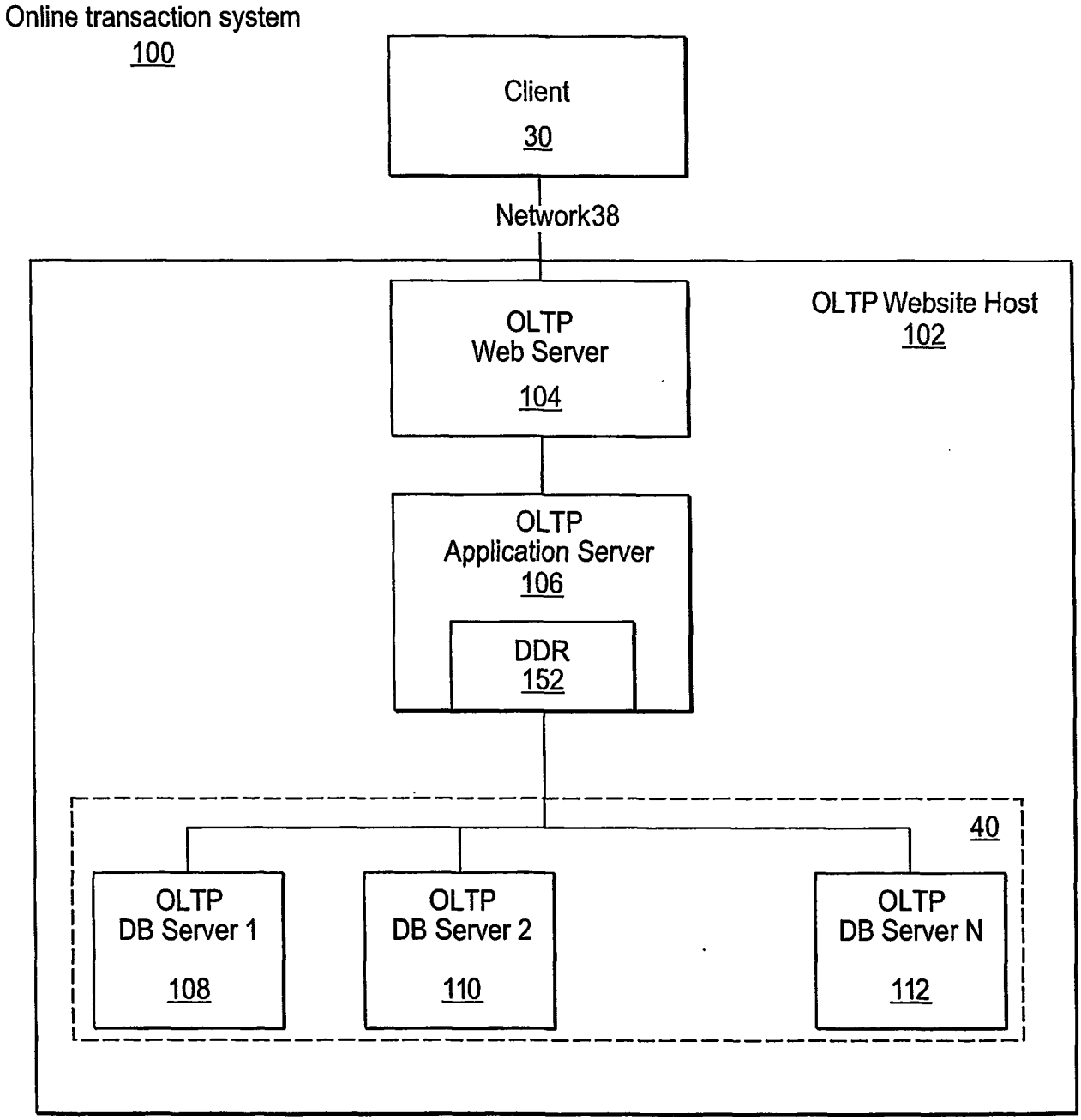
Online transaction system
100
Client
30
Network38
OLTP Website Host
102
OLTP
Web Server
104
OLTP
Application Server
106
DDR
152
40
OLTP
DB Server 1
108
OLTP
DB Server 2
110
OLTP
DB Server N
112

FIG. 4

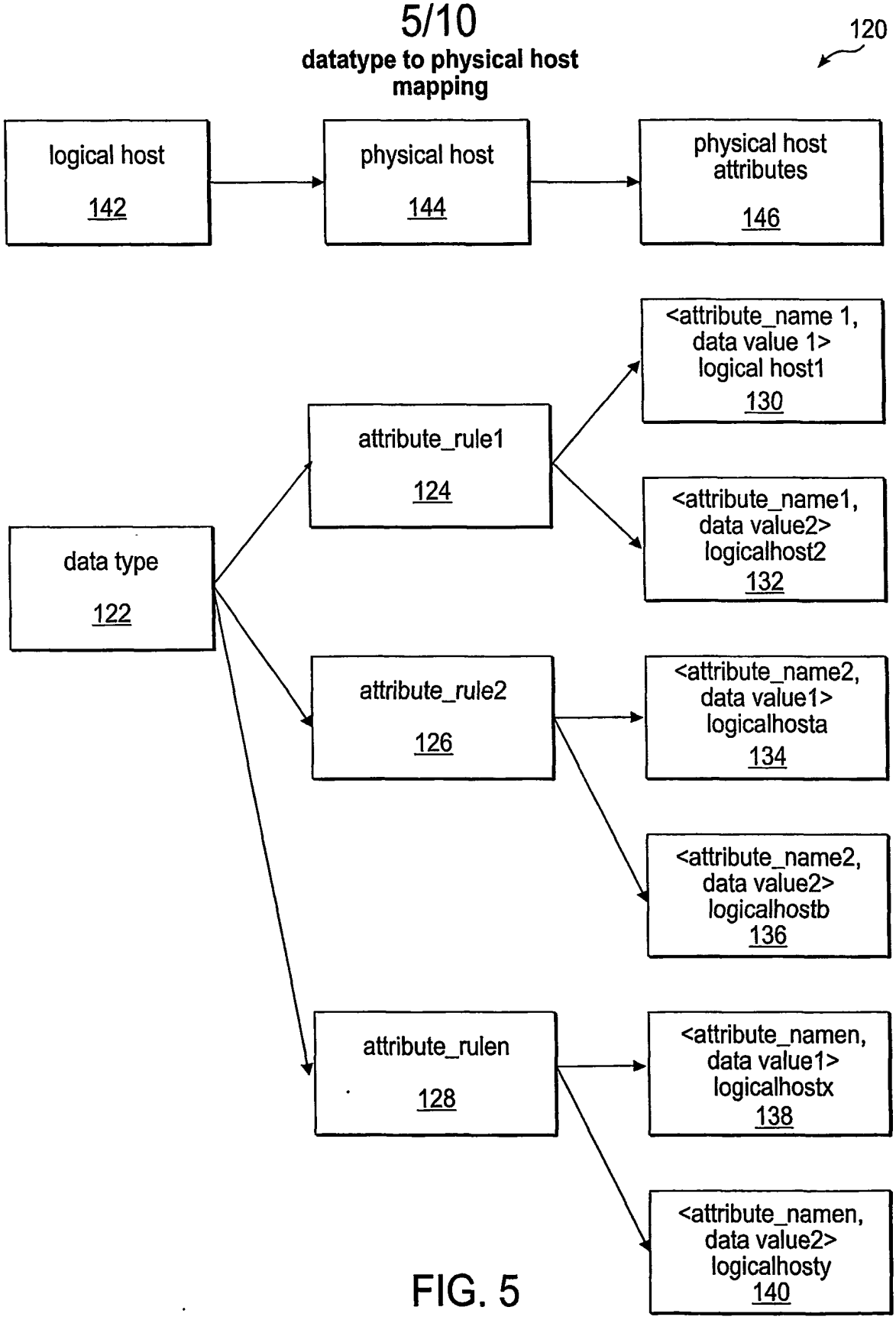
datatype to physical host mapping
120
logical host
142
physical host
144
physical host attributes
146
data type
122
attribute_rule1
124
attribute_rule2
126
attribute_rulen
128
<attribute_name 1, data value 1> logical host1
130
<attribute_name1, data value2> logicalhost2
132
<attribute_name2, data value1> logicalhosta
134
<attribute_name2, data value2> logicalhostb
136
<attribute_namen, data value1> logicalhostx
138
<attribute_namen, data value2> logicalhosty
140

FIG. 5

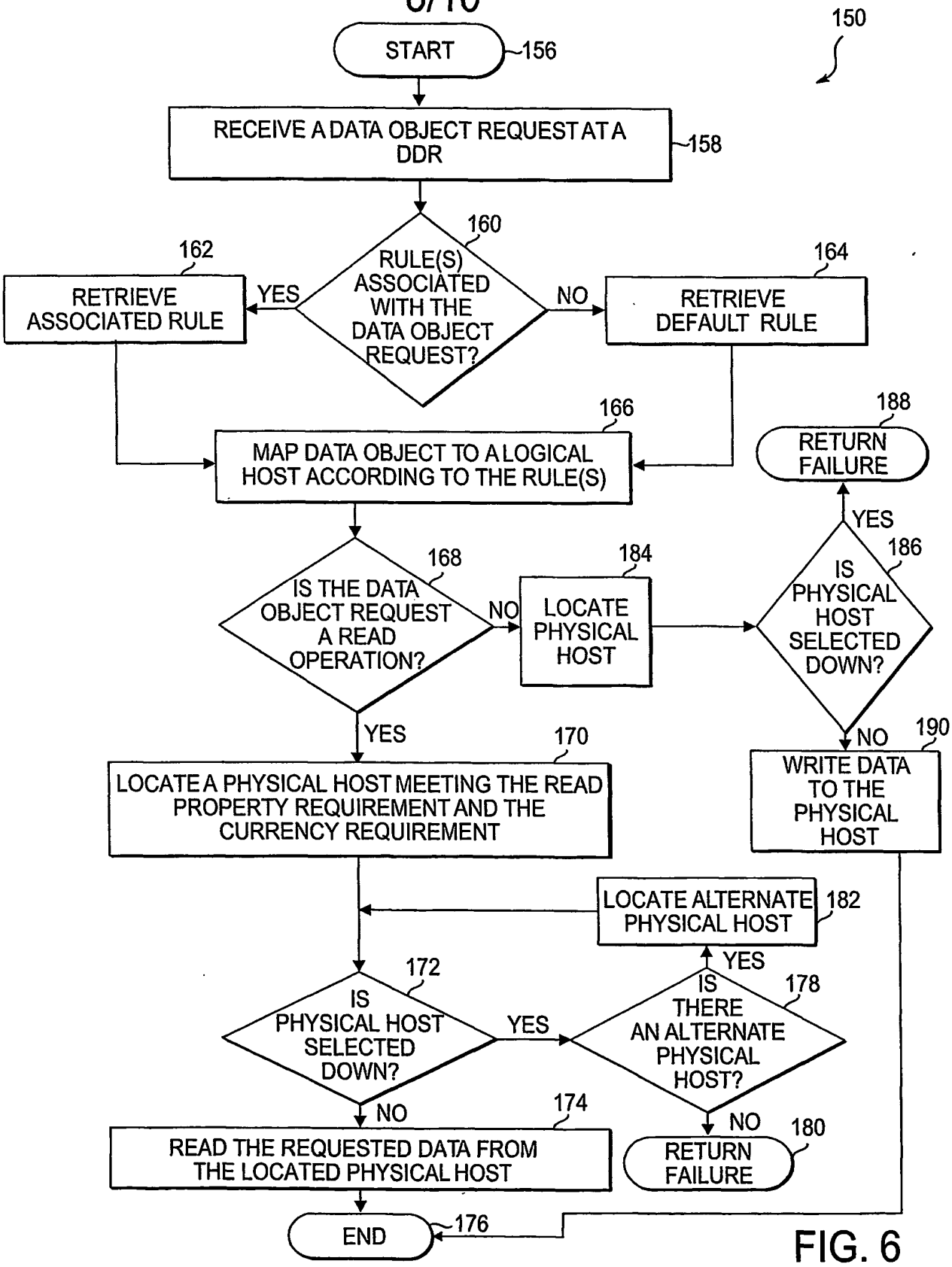
150
START
156
RECEIVE A DATA OBJECT REQUEST AT A DDR
158
160
RULE(S) ASSOCIATED WITH THE DATA OBJECT REQUEST?
YES
NO
162
RETRIEVE ASSOCIATED RULE
164
RETRIEVE DEFAULT RULE
166
MAP DATA OBJECT TO A LOGICAL HOST ACCORDING TO THE RULE(S)
168
IS THE DATA OBJECT REQUEST A READ OPERATION?
NO
184
LOCATE PHYSICAL HOST
YES
170
LOCATE A PHYSICAL HOST MEETING THE READ PROPERTY REQUIREMENT AND THE CURRENCY REQUIREMENT
172
IS PHYSICAL HOST SELECTED DOWN?
YES
178
IS THERE AN ALTERNATE PHYSICAL HOST?
YES
182
LOCATE ALTERNATE PHYSICAL HOST
NO
174
READ THE REQUESTED DATA FROM THE LOCATED PHYSICAL HOST
NO
180
RETURN FAILURE
176
END
186
IS PHYSICAL HOST SELECTED DOWN?
YES
188
RETURN FAILURE
NO
190
WRITE DATA TO THE PHYSICAL HOST

FIG. 6

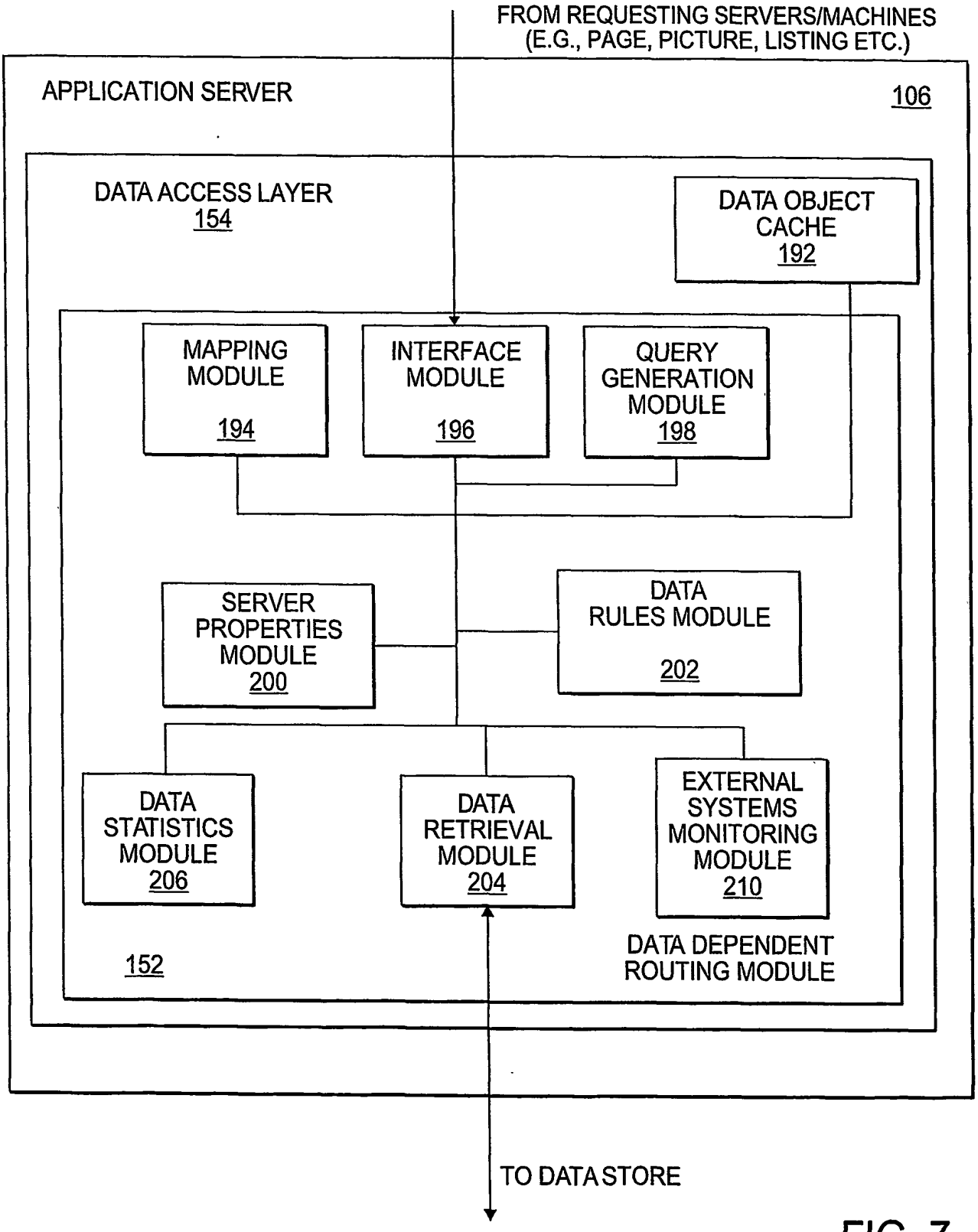
FROM REQUESTING SERVERS/MACHINES
(E.G., PAGE, PICTURE, LISTING ETC.)
APPLICATION SERVER
106
DATA ACCESS LAYER
154
DATA OBJECT CACHE
192
MAPPING MODULE
194
INTERFACE MODULE
196
QUERY GENERATION MODULE
198
SERVER PROPERTIES MODULE
200
DATA RULES MODULE
202
DATA STATISTICS MODULE
206
DATA RETRIEVAL MODULE
204
EXTERNAL SYSTEMS MONITORING MODULE
210
152
DATA DEPENDENT ROUTING MODULE
TO DATA STORE

FIG. 7

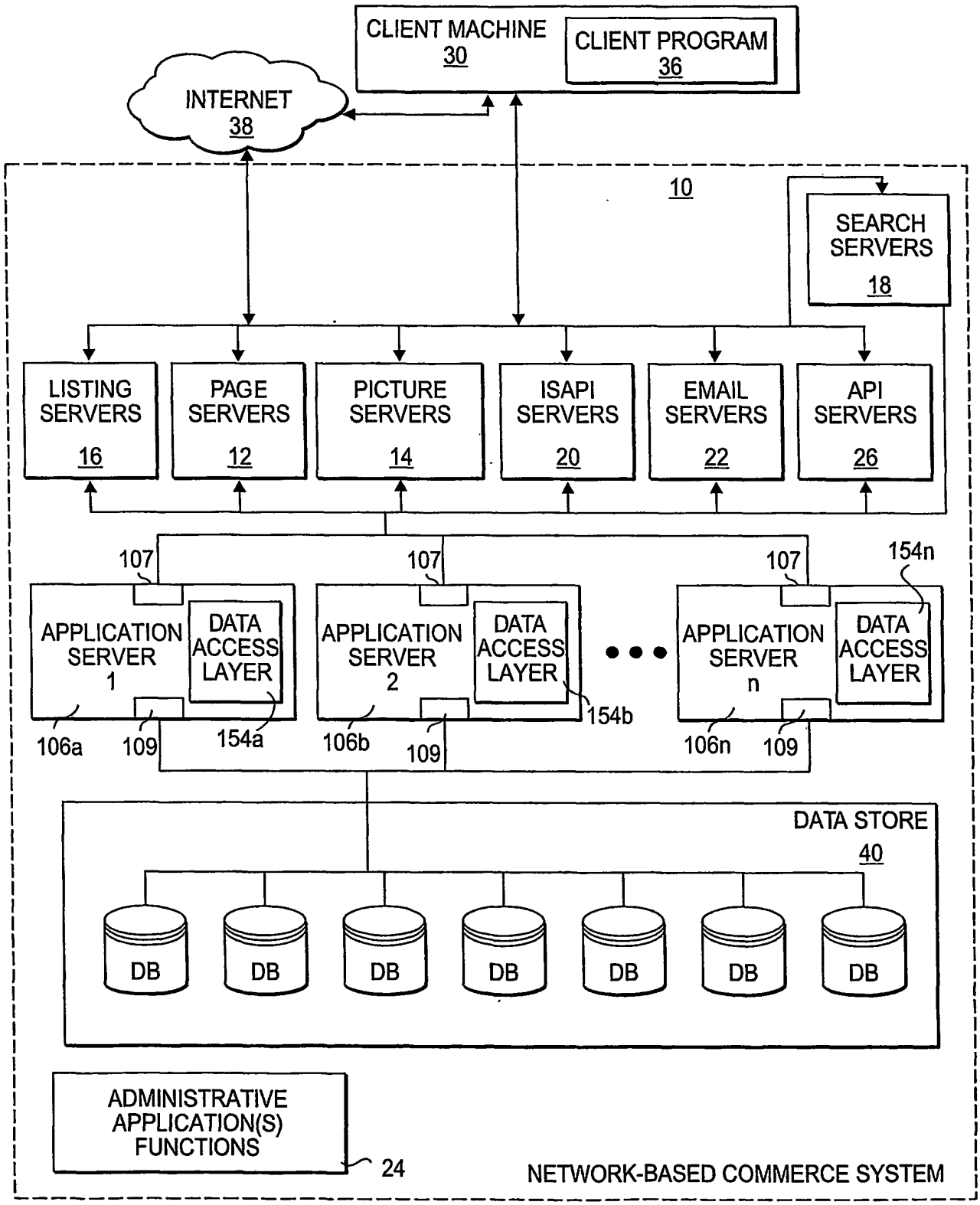
CLIENT MACHINE
30
CLIENT PROGRAM
36
INTERNET
38
10
SEARCH SERVERS
18
LISTING SERVERS
16
PAGE SERVERS
12
PICTURE SERVERS
14
ISAPI SERVERS
20
EMAIL SERVERS
22
API SERVERS
26
107
107
107
154n
APPLICATION SERVER 1
DATA ACCESS LAYER
APPLICATION SERVER 2
DATA ACCESS LAYER
154b
APPLICATION SERVER n
DATA ACCESS LAYER
106a
109
154a
106b
109
106n
109
DATA STORE
40
DB
DB
DB
DB
DB
DB
DB
ADMINISTRATIVE APPLICATION(S) FUNCTIONS
24
NETWORK-BASED COMMERCE SYSTEM

FIG. 8

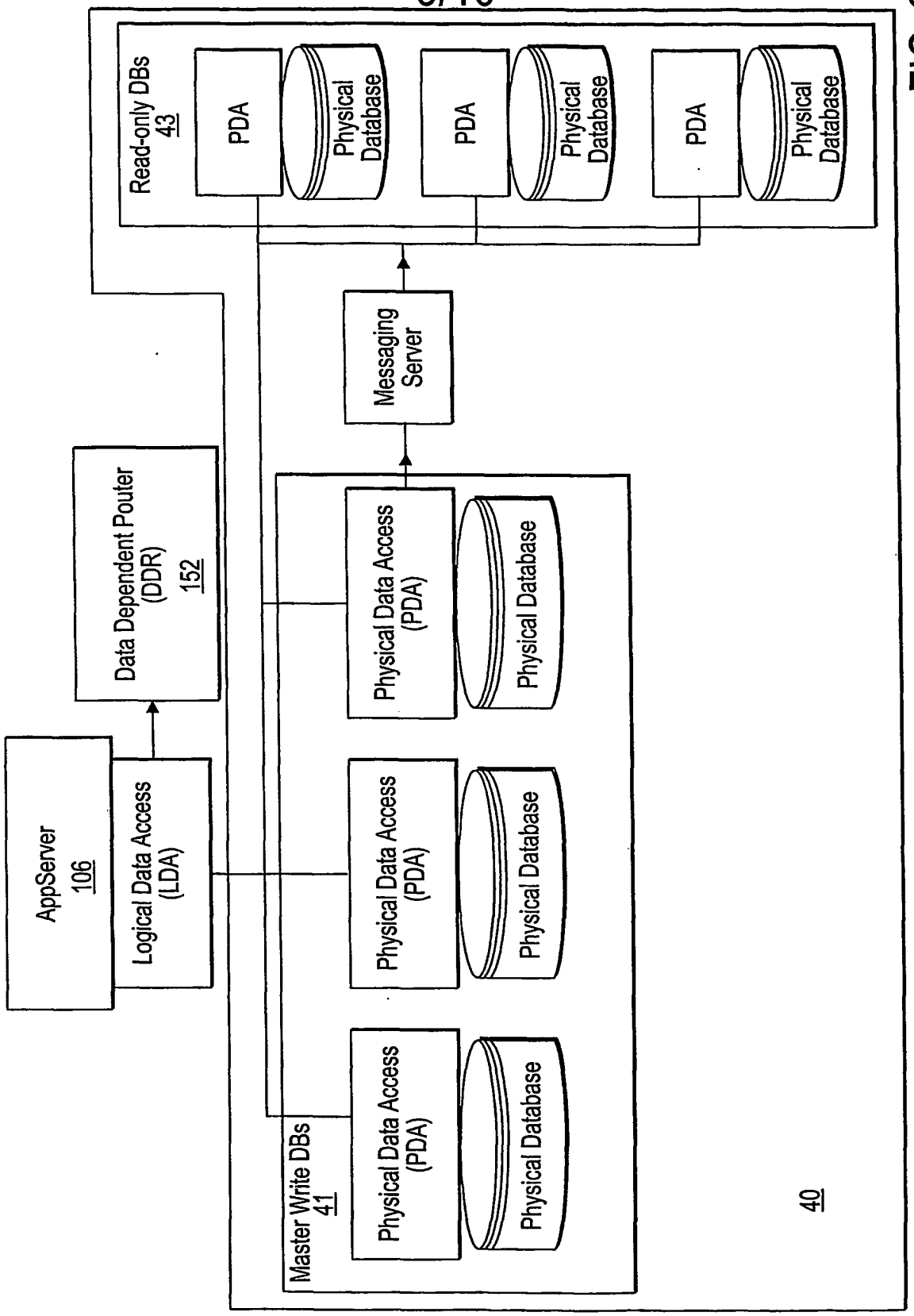
Read-only DBs
43
PDA
Physical Database
PDA
Physical Database
PDA
Physical Database
Messaging Server
Data Dependent Pouter (DDR)
152
AppServer
106
Logical Data Access (LDA)
Physical Data Access (PDA)
Physical Database
Physical Data Access (PDA)
Physical Database
Physical Data Access (PDA)
Physical Database
Master Write DBs
41
40

FIG. 9

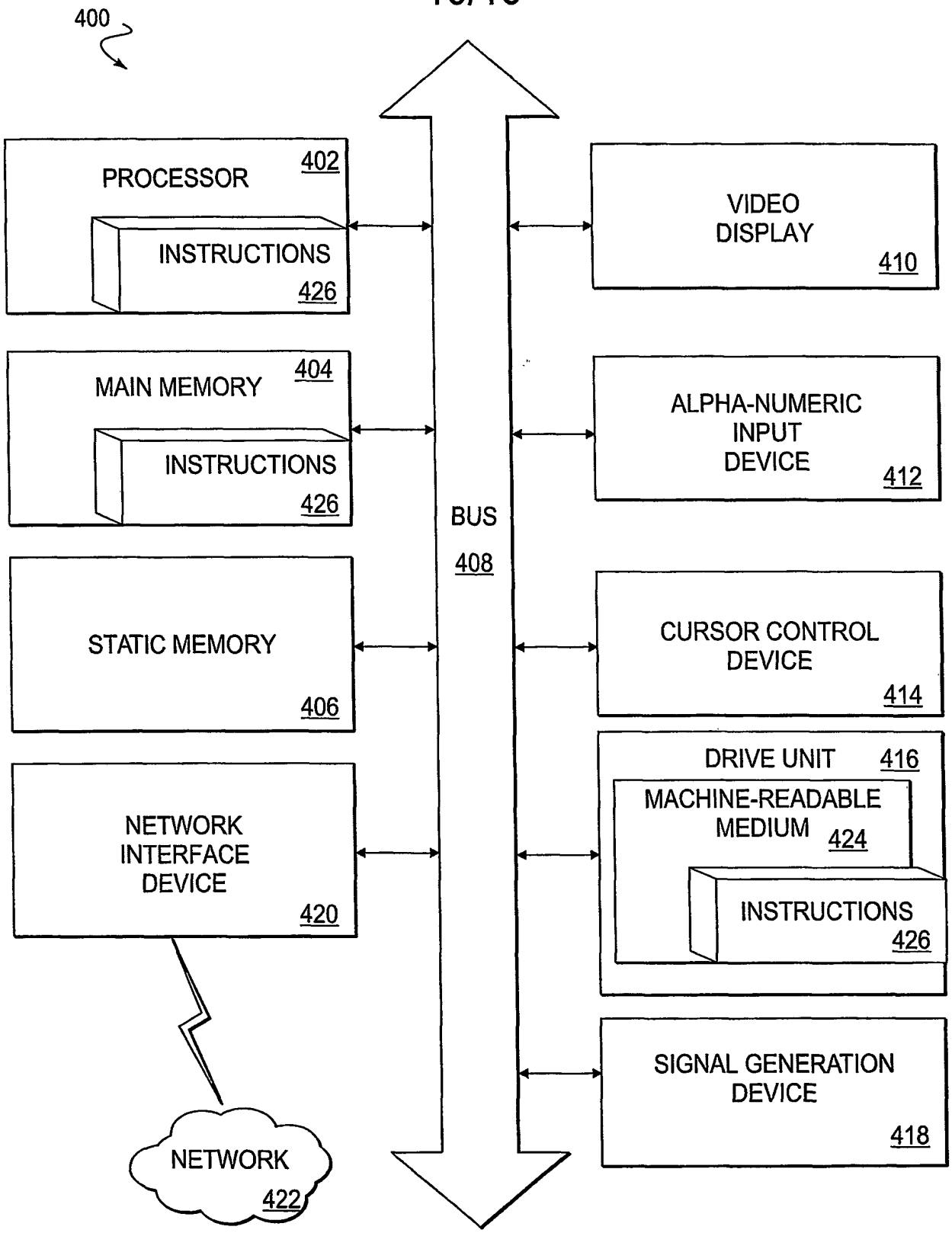
400
PROCESSOR
402
INSTRUCTIONS
426
MAIN MEMORY
404
INSTRUCTIONS
426
STATIC MEMORY
406
NETWORK INTERFACE DEVICE
420
NETWORK
422
BUS
408
VIDEO DISPLAY
410
ALPHA-NUMERIC INPUT DEVICE
412
CURSOR CONTROL DEVICE
414
DRIVE UNIT
416
MACHINE-READABLE MEDIUM
424
INSTRUCTIONS
426
SIGNAL GENERATION DEVICE
418

FIG.10